

ABSTRACT

A method and system for diagnosing pathology, such as carcinoma, in a biological sample identifies presence of pathology based on the existence of an infrared markers in the extracellular material, rather than cells, in the biological sample. In the case of breast cancer diagnosis, an effective marker is a baseline slope of a 1280 cm^{-1} band in the infrared spectra of connective tissue, with normal biopsy samples exhibiting a positive slope and cancerous samples showing a relatively flat baseline. Infrared spectroscopy, both microscopic and macroscopic, may be used to identify a sample region containing extracellular material and to collect infrared absorbance data, from which the existence of the pathology marker is determined.